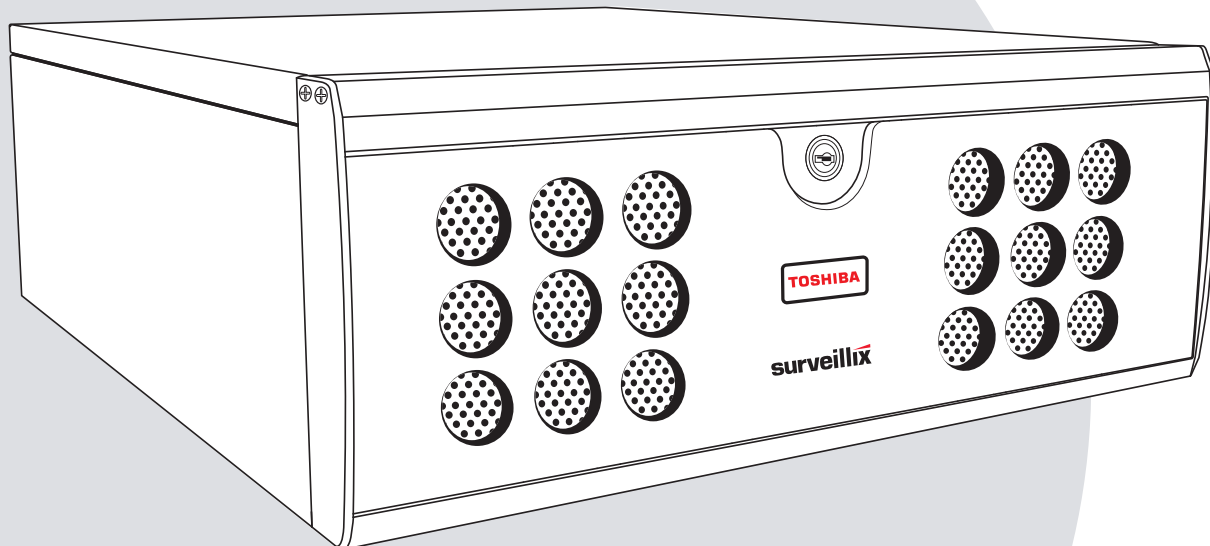


surveillix

NVS Network Video Recorder

Hardware Manual

model no. NVS8-X
NVS16-X
NVS32-X



Please carefully read these instructions before using this product.
Save this manual for future use.

TOSHIBA

Surveillix™ NVS
Hardware Manual

Manual Edition 29102AA –MAY 2009

Printed in USA

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The following words and symbols mark special messages throughout this guide:

WARNING: Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

CAUTION: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

LIMITED WARRANTY

NETWORK VIDEO RECORDER

The Imaging Systems Division of Toshiba America Information Systems, Inc. ("ISD") makes the following limited warranties. These limited warranties extend to the Original End-User ("You[r]").

Limited Two (2) Year Warranty of Labor and Parts

The Imaging Systems Division of Toshiba America Information Systems warrants this product and parts against defects in material or workmanship for a period of two years from the date of original retail purchase by the end-user. During this period, ISD will repair or replace a defective product or part with a new or refurbished item. The user must deliver the entire product to the Surveillix DVR Repair Facility. The user is responsible for all transportation and insurance charges for the product to the DVR Repair Facility. ISD reserves the right to substitute Factory Refurbished Parts and / or Factory Refurbished Product in place of those in need of repair.

Step-by-step Procedures - How to Obtain Warranty Service

[1] Verify operation of the unit by checking the instruction manual and web site for the latest updates at

www.toshibasecurity.com

[2] If there is a defect in material or workmanship, contact the Surveillix DVR Support Center at (877) 855-1349 [877-855-1-FIX] to speak to a technical support representative and schedule service.

[3] Arrange for delivery of the product to the Surveillix DVR Repair Facility. Products must be insured and securely packed, preferably in the original shipping carton. A letter explaining the defect and a copy of the bill of sale or other proof of purchase must be enclosed with a complete return street address and daytime telephone number. The Tracking Number should also be indicated on your documents. Charges for transportation and insurance must be prepaid by the end-user.

Critical Use Disclaimer

The product is not designed for any "critical applications." "Critical applications" means life support systems, exhaust or smoke extraction applications, medical applications, commercial aviation, mass transit applications, military applications, homeland security applications, nuclear facilities or systems or any other applications where product failure could lead to injury to persons or loss of life or catastrophic property damage. Accordingly, Toshiba disclaims any and all liability arising out of the use of the product in any critical applications.

Your Responsibilities

The above warranty is subject to the following conditions:

[1] You must retain the bill of sale or provide other proof of purchase.

[2] You must schedule service within thirty days after you discover a defective product or part.

[3] All warranty servicing of this product must be made by the Surveillix DVR Repair Facility.

[4] The warranty extends to defects in material or workmanship as limited above, and not to any products or parts that have been lost or discarded by user. The warranty does not cover damage caused by misuse, accident, improper installation, improper maintenance, or use in violation of instructions furnished by ISD. The warranty does not extend to units which have been altered or modified without authorization of ISD, or to damage to products or parts thereof which have had the serial number removed, altered defaced or rendered illegible.

ALL WARRANTIES IMPLIED BY STATE LAW, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THE LIMITED WARRANTIES SET FORTH ABOVE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply. WITH THE EXCEPTION OF ANY WARRANTIES IMPLIED BY STATE LAW AS HEREBY LIMITED, THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WITH RESPECT TO THE REPAIR OR REPLACEMENT OF ANY PRODUCTS OR PARTS. IN NO EVENT SHALL ISD BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation may not apply.

No person, agent, distributor, dealer, service station or company is authorized to change, modify or extend the terms of these warranties in any manner whatsoever. The time within which an action must be commenced to enforce any obligation of ISD arising under this warranty or under any statute, or law of the United States or any state thereof, is hereby limited to one year from the date you discover or should have discovered, the defect. This limitation does not apply to implied warranties arising under state law. Some states do not permit limitation of the time within which you may bring an action beyond the limits provided by state law so the above provision may not apply to user. This warranty gives the user specific legal rights, and user may also have other rights, which may vary from state to state.

TOSHIBA AMERICA INFORMATION SYSTEMS, INC.
Imaging Systems Division

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TOSHIBA

IMPORTANT SAFEGUARDS

1. **Read Owner's Manual** – After unpacking this product, read the owner's manual carefully, and follow all the operating and other instruction
2. **Power Sources** – This product should be operated only from the type of power source indicated on the label. If you are not sure of the type of power supply to your home or business, consult your product dealer or local power company
3. **Ventilation** – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
4. **Heat** – The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products that produce heat.
5. **Water and Moisture** – Do not use this product near water. Do not exceed the humidity specifications for the product as detailed in this manual.
6. **Cleaning** – Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
7. **Power Cord Protection** – Power-supply cords should not be routed so that they are not likely to be walked on or pinched by items placed against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.
8. **Overloading** – Do not overload wall outlets; extension cords, or integral convenience receptacles as this can result in a risk of fire or electrical shock.
9. **Lightning** – For added protection for this product during storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power line surges.
10. **Object and Liquid Entry Points** – Never insert foreign objects into the NVR, other than the media types approved by Honeywell, as they may touch dangerous voltage points or short-out parts that could result in a fire or electrical shock. Never spill liquid of any kind on the product.
11. **Accessories** – Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious personal injury and serious damage to the product.
12. **Disc Tray** – Keep fingers clear of the disc tray as it is closing. Neglecting to do so may cause serious personal injury.
13. **Burden** – Do not place a heavy object on or step on the product. The object may fall, causing serious personal injury and serious damage to the product.
14. **Disc** – Do not use a cracked, deformed, or repaired disc. These discs are easily broken and may cause serious personal injury and product malfunction.
15. **LAN Port** - This equipment is for indoor use and all the communication wirings are limited to inside of the building.

IMPORTANT SAFEGUARDS, continued

16. **Damage Requiring Service** – Unplug the unit from the outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power-supply cord or plug is damaged.
 - b. If liquid has been spilled, or objects have fallen into the unit.
 - c. If the unit has been exposed to rain or water.
 - d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
 - e. If the unit has been dropped or the enclosure has been damaged.
 - f. When the unit exhibits a distinct change in performance - this indicates a need for service.
17. **Servicing** – Do not attempt to service this product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified personnel.
18. **Replacement Parts** – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
19. **Safety Check** – Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

BATTERY EXPLOSION CAUTION STATEMENT

CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type.
Dispose of Used Batteries According to the Instructions

NOTES ON HANDLING

Please retain the original shipping carton and/or packing materials supplied with this product. To ensure the integrity of this product when shipping or moving, repackage the unit as it was originally received from the manufacturer.

Do not use volatile liquids, such as aerosol spray, near this product. Do not leave rubber or plastic objects in contact with this product for extended periods of time. Rubber or plastic objects left in contact with this product for extended periods of time will leave marks on the finish.

The top and rear panels of the unit may become warm after long periods of use. This is not a malfunction.

NOTES ON LOCATING

Place this unit on a level surface. Do not use it on a shaky or unstable surface such as a wobbling table or inclined stand.

If this unit is placed next to a TV, radio, or VCR, the playback picture may become poor and the sound may be distorted. If this happens, place the DVR away from the TV, radio, or VCR.

NOTES ON CLEANING

Use a soft dry cloth for cleaning.

For stubborn dirt, soak the cloth in a weak detergent solution, wring well and wipe. Use a dry cloth to wipe it dry. Do not use any type of solvent, such as thinner and benzene, as they may damage the surface of the DVR.

If using a chemical saturated cloth to clean the unit, follow that product's instructions.

NOTES ON MAINTENANCE

This DVR is designed to last for long periods of time. To keep the DVR always operational we recommend regular inspection maintenance (cleaning parts or replacement). For details, contact the nearest dealer.

NOTES ON MOISTURE CONDENSATION

Moisture condensation damages the DVR. Read the following information carefully.

Moisture condensation occurs during the following cases:

When this product is brought directly from a cool location to a warm location.

When this product is moved to a hot and humid location from a cool location.

When this product is moved to a cool and humid location from a warm location.

When this product is used in a room where the temperature fluctuates.

When this product is used near an air-conditioning unit vent

When this product is used in a humid location.

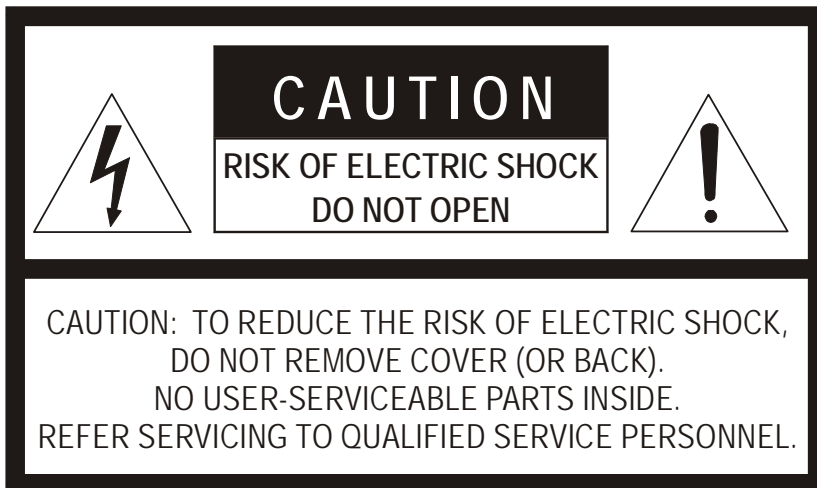
Do not use the DVR when moisture condensation may occur.

If the DVR is used in such a situation, it may damage discs and internal parts. Remove any CD discs, connect the power cord of the DVR to the wall outlet, turn on the DVR, and leave it for two to three hours. After two to three hours, the DVR will warm up and evaporate any moisture. Keep the DVR connected to the wall and moisture will seldom occur.

WARNING

TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
DANGEROUS HIGH VOLTAGES ARE PRESENT INSIDE THE ENCLOSURE.
DO NOT OPEN THE CABINET.
REFER SERVICING TO QUALIFIED PERSONNEL ONLY.

CAUTION



RACK MOUNT INSTRUCTIONS

Elevated Operating Ambient – If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (T_{ma}) specified by the manufacturer.

Reduced Air Flow – Installation of the equipment in a rack should be such that the amount of airflow required for safe operation of the equipment is not compromised.

Mechanical Loading – Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

Circuit Overloading – Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on over current protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Grounding – Grounding of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit (e.g. use of power strips).

FCC STATEMENT

INFORMATION TO THE USER: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

USERS OF THE PRODUCT ARE RESPONSIBLE FOR CHECKING AND COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND STATUTES CONCERNING THE MONITORING AND RECORDING OF VIDEO AND AUDIO SIGNALS. HONEYWELL VIDEO SYSTEMS SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS PRODUCT IN VIOLATION OF CURRENT LAWS AND STATUTES.

UL NOTICE

Underwriters Laboratories Inc. has not tested the performance or reliability of the security or signaling aspects of this product. UL has only tested for fire, shock and casualty hazards as outlined in UL's Standard for Safety UL 60950-1. UL Certification does not cover the performance or reliability of the security or signaling aspects of this product. UL MAKES NO REPRESENTATIONS, WARRANTIES OR CERTIFICATIONS WHATSOEVER REGARDING THE PERFORMANCE OR RELIABILITY OF ANY SECURITY OR SIGNALING RELATED FUNCTIONS OF THIS PRODUCT.

CE NOTICE

This product is in conformity with the following European Directives:

ELECTROMAGNETIC COMPATIBILITY DIRECTIVE, 89/336/EEC
(as amended by 92/31/EEC and by Article 5 of 93/68/EEC)

per the provisions of:

EN55022:2006	EN61000-4-2:1995+A1+A2:2001	EN61000-4-6:1996+A1:2001
EN55024:1998+A1:2001+A2:2003	EN61000-4-3:1995+A1:2002	EN61000-4-8:1994+A1:2001
EN61000-3-2:2006	EN61000-4-4:1995+A1+A2:2004	EN61000-4-11:2004
EN61000-3-3:1995+A1:2001+A2:2005	EN61000-4-5:1995+A1:2001	

LOW VOLTAGE DIRECTIVE, 73/23/EEC
(as amended by Article 13 of 93/68/EEC)

per the provisions of:

EN 60950-1: 2001

Table of Contents

PREFACE.....	2
ABOUT THIS GUIDE	2
TECHNICIAN NOTES	2
INTRODUCTION.....	4
PRODUCT DESCRIPTION	4
FEATURES	4
CONTROLS AND CONNECTIONS.....	6
BASIC FEATURES	7
FRONT PANEL CONTROLS AND LEDS	8
REAR PANEL CONNECTORS	9
GETTING STARTED	10
IDENTIFYING INCLUDED COMPONENTS.....	11
KEYBOARD SETUP	12
MOUSE SETUP	12
MONITOR SETUP	13
POWER SETUP	13
CONNECTING A VIDEO SOURCE	13
HARD DRIVE ARRAY	14
Swapping a Hard Drive.....	14
OPTIONAL COMPONENTS.....	15
APPENDIX.....	16
NVS SPECIFICATIONS	17

PREFACE

ABOUT THIS GUIDE

This manual is a setup and maintenance guide that can be used for reference when setting up the NVS unit and for troubleshooting when a problem occurs. Only authorized personnel should attempt to repair this unit.

Toshiba reserves the right to make changes to the NVS units represented by this manual without notice.

The following text mark special messages throughout this guide:

NOTE: Text set off in this manner indicates topics of interests that can help the user understand the product better.

TIP: Text set off in this manner indicates topics and points of interests that can be helpful when using or settings up the NVS unit.

TECHNICIAN NOTES



WARNING: Only authorized technicians trained by Toshiba should attempt to repair this NVS unit. All troubleshooting and repair procedures that may be shown are for reference and minor repair only. Because of the complexity of the individual components and subassemblies, no one should attempt to make repairs at the component level or to make modifications to any printed wiring board. Improper repairs can create a safety hazard. And any indications of component replacement or printed wiring board modifications may void any warranty.



WARNING: To reduce the risk of electrical shock or damage to the equipment:

- Do not disable the power grounding plug. The grounding plug is an important safety feature.
- Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
- Disconnect the power from the computer by unplugging the power cord either from the electrical outlet or the computer.



CAUTION: To properly ventilate your system, you must provide at least 3 inches (7.6 cm) of clearance at the front and back of the NVS unit.

INTRODUCTION

PRODUCT DESCRIPTION

A Surveillix NVS is simply a server that performs as a High Definition Digital Recorder. By utilizing the many features of a computer, including processing power, storage capacity, graphics compression, network cameras and security features, the NVS unit is more powerful than the analog recorders of the past with its ability to utilize digital network cameras.

The Surveillix NVS server software comes pre-configured for fast and seamless integration within your existing IT infrastructure. Designed around Microsoft® Windows® XP Embedded, the server software offers unparalleled stability, security, and ease of use. Accordingly, your security investment has never been easier to maintain. Multiple users may simultaneously connect through any network connection for instantaneous live viewing, digital search, and off site video storage. Users can also connect remotely through DSL, Cable Modems, ISDN, or 56K dial-up. This powerful software enables users to establish recording schedules, create motion detection zones, use PTZ controls, and configure alarm inputs and outputs for each of the system's cameras. With the latest advancements in the NVS Server Software, searching and indexing your video archive has never been easier. Video can now be found, viewed, and exported in a number of file formats with just a few clicks.

The Surveillix NVS is high performance security product ready to meet today's security demands.

FEATURES

Toshiba's Surveillix NVS' include the following features:

- Field Upgradeable, Replaceable HDD Array
- Large Storage Capacities
- Internal RAID 5 (optional)
- Removable HDD bays for quick and easy maintenance
- PAN / TILT / ZOOM Controls on supported IP Cameras
- Simultaneous Search, Playback and Backup
- Up to 32 IP Cameras
- Multiple Levels of Security Access
- Output the video to an NTSC/PAL display
- Advanced POS and ATM support
- Continuous, Motion Detection and Alarm Recording Modes
- Video Signal Loss Detection
- Records at the Encoding Resolution of the IP Camera
- Digital Signature Support for Tamper Proof Exporting
- Up to 16 TB External RAID 5 Available
- Output the Video to a NTSC/PAL Display

CONTROLS AND CONNECTIONS

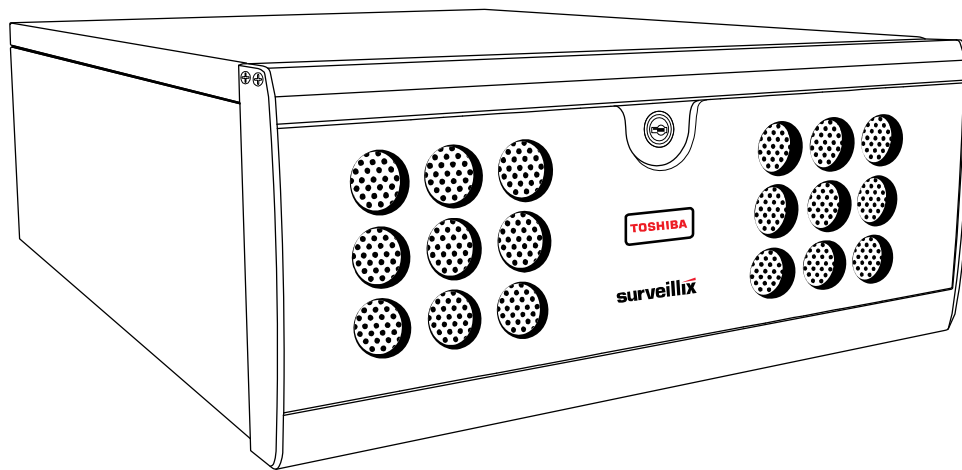
This chapter includes the following information:

- Input/Output connector locations
- Front Panel Controls and LEDs
- Rear Panel Connectors

BASIC FEATURES

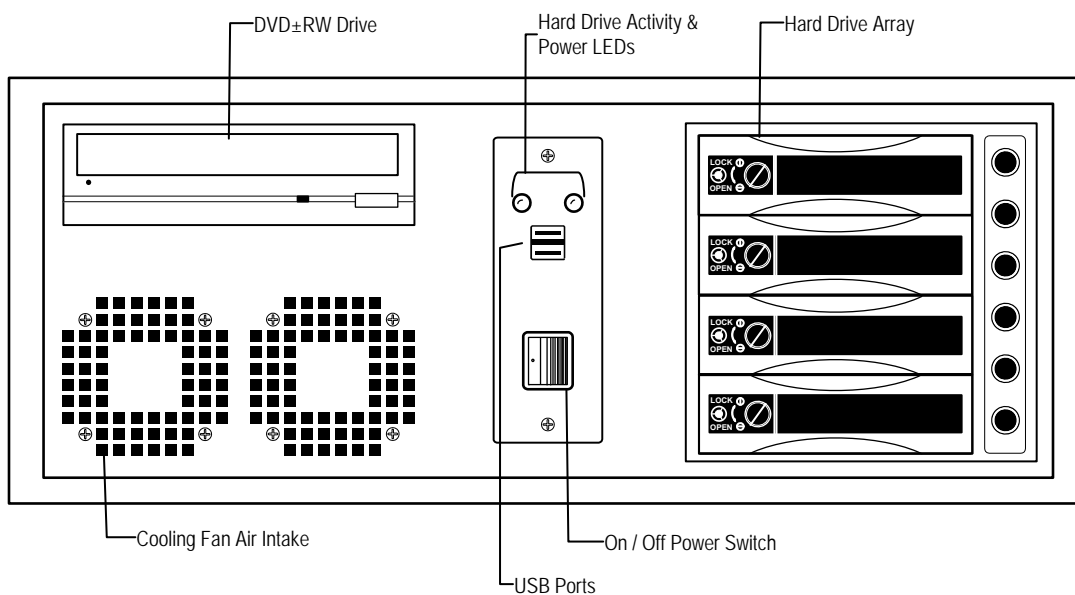
Surveillix™ state-of-the-art High Definition Digital Recorders are housed in a high performance and versatile 4U Aluminum Rack-Mount case allowing easy storage of multiple NVS' for enterprise applications. Every Surveillix NVS Unit comes equipped with the latest technology:

- Intel® CPU
- 100/1000 Gigabit Ethernet
- 1GB of System Memory
- DVD±RW Recorder
- Full Duplex High-Fi Sound Functionality



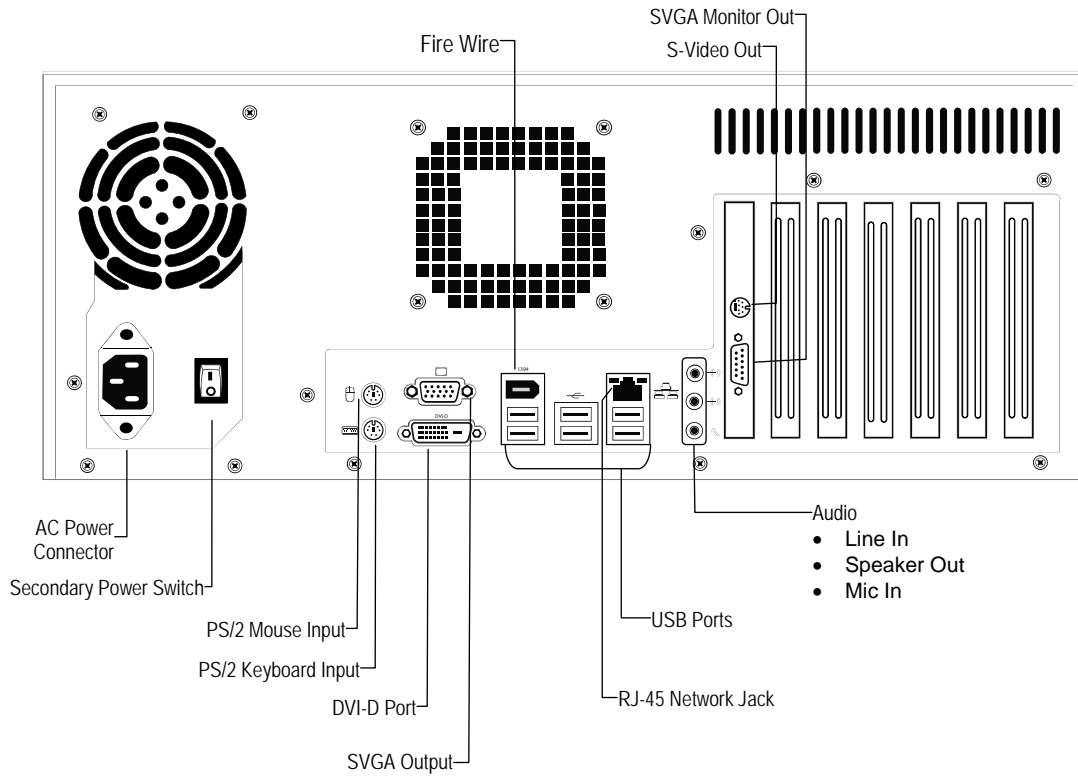
FRONT PANEL CONTROLS AND LEDS

The front panel of the NVS unit contains the devices that will be commonly used for data removal, retrieval, and backup replacement. The most common components and buttons are shown below.



REAR PANEL CONNECTORS

The rear panel of the NVS unit contains virtually all of the connectors you will be using. Below is a diagram that outlines the location and description of each connector:



GETTING STARTED

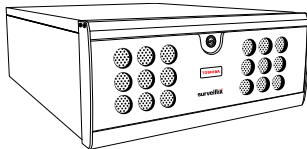


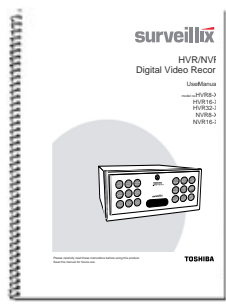


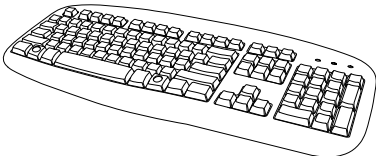
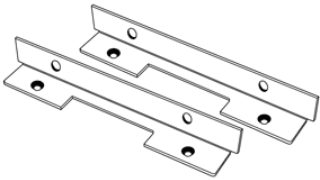

This chapter includes the following information:

- Included Components
- Setting up your NVS Hardware
- Optional Components

IDENTIFYING INCLUDED COMPONENTS

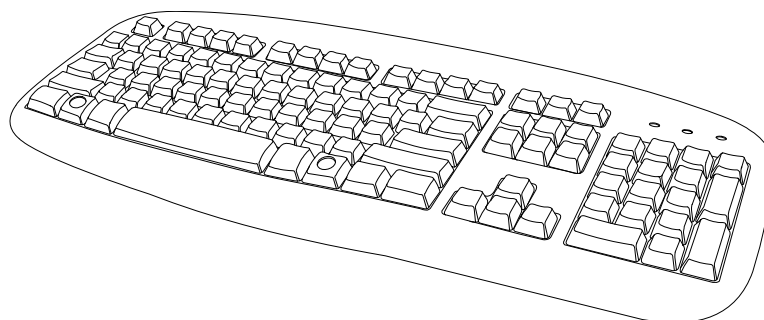
Surveillix™ NVS systems come with a mouse, keyboard and selected software and cables. Identify the following components to make sure everything has been properly included with your new NVS unit. If any of the following items are missing, contact your dealer to arrange a replacement.

Included Components:

 <p>NVS Unit</p>	 <p>Mouse</p>	 <p>NVS Key</p>
 <p>Manual</p>	 <p>Repair CD</p>	 <p>Software Installation CD</p>
 <p>Keyboard</p>	 <p>Rackmount Attachments with Screws</p>	 <p>Power Cable</p>

KEYBOARD SETUP

To attach the keyboard to the DVR unit, plug the end of the Keyboard into the keyboard PS/2 Port located on the back of the machine. The keyboard PS/2 Port can be identified by the purple color. Refer to the Rear Panel Connectors diagram for more information.



MOUSE SETUP

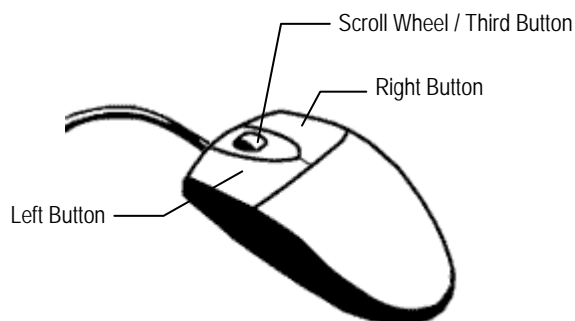
To attach the mouse to the DVR unit, plug the end of the mouse into the mouse PS/2 Port located on the back of the machine. The mouse PS/2 Port can be identified by the green color. Refer to the Rear Panel Connectors diagram for more information.

The mouse uses a cursor. Cursors come in many different shapes but are most commonly shaped like an arrow.

Your mouse has two buttons: a left button and a right button. Quickly pressing and releasing one of these buttons is called clicking. Sometimes you will need to double-click – or click the same button twice quickly.

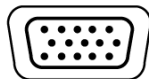
In this manual, click means to position your mouse cursor on an icon and to single click the left button. When a right click is required, this is stated clearly. Double-click also refers to the left button.

The scroll wheel in between the two buttons is added to provide easier scrolling capability. By simply moving the wheel with your index finger, you can quickly move through multiple pages, line, or windows. The wheel may also function as a third button allowing you to quickly click or double-click an icon or a selected item.



MONITOR SETUP

There are 2 available connections for monitors which can be used individually or in tandem.



SVGA Output

To VGA Monitor.



DVI-D Output

To TV / Digital Monitor

Attach the monitor or monitors to the rear of the NVR using the cable supplied by the monitor manufacturer. Refer to the monitor manual for detailed information on how to setup and use it.

NOTE: The monitor must be capable of having a screen resolution of 1024 x 768 and display colors of at least 32 Bit

POWER SETUP

Attach the AC power cable to the rear of the DVR Unit. See Rear Panel Connectors for more information.



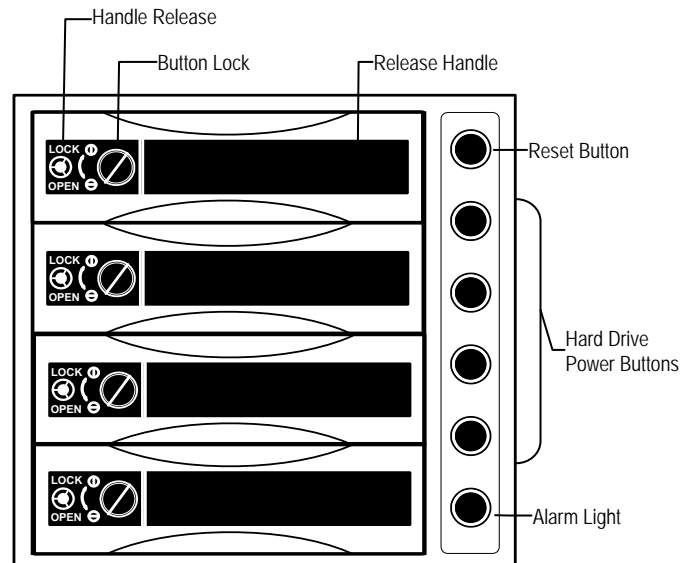
WARNING: To reduce the risk of electrical shock or damage to the equipment:

- Do not disable the power grounding plug. The grounding plug is an important safety feature.
 - Plug the power cord into a grounded (earthed) electrical outlet that is easily accessible at all times.
 - Disconnect the power from the computer by unplugging the power cord either from the electrical outlet or the computer.
-

CONNECTING A VIDEO SOURCE

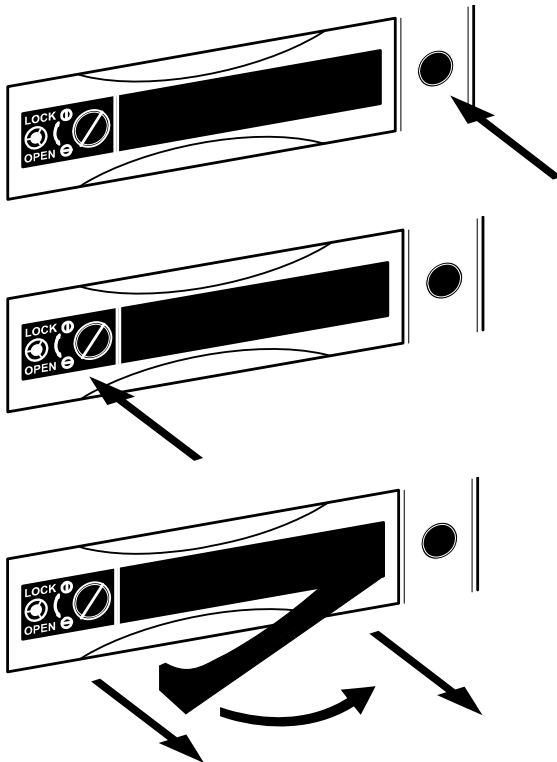
The NVS, a Network Video Recorder has no visible video inputs because the NVS unit connects and records only using IP / Network video cameras. To connect video sources to the NVS unit, simply plug in a network cable to the NVS unit.

HARD DRIVE ARRAY



NOTE: The Alarm Light will turn on if the Hard Drives reach a temperature above safe operating conditions

Swapping a Hard Drive



1. Press the hard drive power button to turn off power to the hard drive you wish to remove.
2. Turn the button lock to the open position and push the handle release button.
3. Pull the lever outward while removing the hard drive. Reverse steps to install.

OPTIONAL COMPONENTS

To fully utilize the NVR's potential; several optional Surveillix components are listed below. Contact the dealer for more information.

Extra Video Storage Hard Drive

Each DVR has a virtually unlimited storage potential. Add additional Video Data Hard Drives to extend the amount of Video Data the DVR system can store before overwriting older data.

UPS UPS Power Backup

UPS Power Backups allow your DVR to remain fully functional even in the event of a power failure. UPS Power Backups also even the fluctuating power current out to provide a consistent, reliable power flow. This creates a stable environment for the DVR and reduces failure.

NP-4PKVM 4 Channel KVM Switch

The 4 Channel KVM switch allows you to have multiple boxes (up to 4) using only one keyboard, mouse and monitor. You can simply switch between the DVRs using the keyboard.

Hot Swappable Redundant Power Supplies

Every DVR has the option of a dual redundant hot swappable power supply. In the event of a component failure the inoperable power supply may be removed leaving the DVR running so no break in recording occurs. Simply replace the power supply with a new one and you are finished.

Raid Controller

A raid controller is available for increased performance or data reliability.

External RAID storage

An external RAID device is used for independent data reliability & provides much greater storage expandability

Gigabit NIC

Provides support for Dual Nic configurations

SCSI Interface adapter

Allows for external storage devices to be connected

APPENDIX

The Appendix contains technical specifications for many of the NVR internal components

NVS SPECIFICATIONS

	8	16	32
CPU	Intel® CPU		
Storage (Hard Drive)	500 GB Standard / 4TB Max		
Storage MAX	Up to 4 HDD with DVD±RW		
Operating System	Microsoft® Windows® XP Embedded		
RAM	2GB		3 GB
Viewing Rate	Max 480 PPS		
Recording Rate	Dependant on Network Video Device Encoding Rate		
Resolution	Recording resolutions dependent upon the resolutions the Network Camera supports		
Image Compression	Proprietary MJPEG		
Average File Size	360x240 – 3~5k		
	720x240 – 4~8k		
	720x480 – 7~12k		
Video Outputs	SVGA, DVI-D		
Max PPS Per Channel	30 PPS (NTSC) / 25 PPS (PAL)*		
Motion Detection	Up to 15 Regions Per Channel / Adjustable Sensitivity		
Remote Operation	Full Remote Control Through PSTN, ISDN, ADSL, LAN, and TCP/IP		
Remote Software	Compatible with Microsoft Windows 2000, XP, Vista		
PAN / TILT / ZOOM	Built in Software Interface		
Recording Mode	Continuous, Motion Detection, Sensor, Scheduled Recording		
Backup	USB, DVD±RW		
Digital Signature	Supports Digital Signature Verification		
Emergency Agent	Transmitted through TCP/IP – Pop-Up Window		

* Total recording throughput dependent on multiple factors including: system specs, camera codec, camera settings, camera resolution, and network bandwidth. Refer to the Toshiba IP platform estimator for more information on the specifics of your installation.